

Brickmasons, Blockmasons, and Stonemasons

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What They Do

The handsome look of a brick facade on an expensive home, the rustic look of a river cobble fireplace, or the shell of an upscale boutique is the work of the Brick, Block, and Stonemason.

Brickmasons use bricks, concrete block, and stones to construct homes, fireplaces, warehouses, commercial and other structures. They also construct sound-reflecting walls along freeways, driveways, retaining walls, walkways, patio floors, and a variety of other outdoor installations. Stonemasons use natural or artificial stone in similar construction projects. Blockmasons use precast concrete blocks.

Both Brick and Stonemasons begin construction only after carefully planning their project or by using detailed blueprints.

Stonemasons often work from a set of drawings, in which each stone has been numbered for identification. Helpers may locate and carry these prenumbered stones to the masons. A derrick operator using a hoist may be needed to lift large stone pieces into place.

Some Brickmasons and Blockmasons now install structural insulated wall panels and masonry accessories used in many high-rise buildings.

Blockmasons use blueprints to tell them where windows and door are located, the exterior dimensions, and other features the building will have.

Tasks

Brickmasons and Blockmasons

- ▶ Interpret blueprints and drawings to determine specifications and to calculate the materials required.
- ▶ Measure distance from reference points and mark guidelines to lay out work, using plumb bobs and levels.
- ▶ Calculate angles and courses and determine vertical and horizontal alignment of courses.
- ▶ Construct corners by fastening in plumb position a corner pole or building a corner pyramid of bricks, then filling in between the corners using a line from corner to corner to guide each course, or layer, of brick.

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- ▶ Break or cut bricks, tiles, or blocks to size, using trowel edge, hammer, or power saw.
- ▶ Fasten or fuse brick or other building material to structure with wire clamps, anchor holes, torch, or cement.
- ▶ Mix specified amounts of sand, clay, dirt, or mortar powder with water to form refractory mixtures.
- ▶ Apply and smooth mortar or other mixture over work surface.
- ▶ Remove excess mortar with trowels and hand tools, and finish mortar joints with jointing tools, for a sealed, uniform appearance.
- ▶ Examine brickwork or structure to determine need for repair.

Stonemasons

- ▶ Dig trench for foundation of monument, using pick and shovel.
- ▶ Lay out wall patterns or foundations, using straight edge, rule, or staked lines.
- ▶ Shape, trim, face and cut marble or stone preparatory to setting, using power saws, cutting equipment, and hand tools.
- ▶ Set stone or marble in place, according to layout or pattern.
- ▶ Drill holes in marble or ornamental stone and anchor brackets in holes.
- ▶ Smooth, polish, and bevel surfaces, using hand tools and power tools.
- ▶ Mix mortar or grout and pour or spread mortar or grout on marble slabs, stone, or foundation.
- ▶ Line interiors of molds with treated paper and fill molds with composition-stone mixture.
- ▶ Remove wedges, fill joints between stones, finish joints between stones, using a trowel, and smooth the mortar to an attractive finish, using a tuck pointer.
- ▶ Clean excess mortar or grout from surface of marble, stone, or monument, using sponge, brush, water, or acid.

Detailed descriptions of these occupations may be found in the Occupational Information Network (O*NET) at online.onetcenter.org.

Important Skills, Knowledge, and Abilities

- ▶ Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- ▶ Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
- ▶ Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- ▶ Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
- ▶ Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
- ▶ Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

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- ▶ Time Management — Managing one's own time and the time of others.
- ▶ Reading Comprehension — Understanding written sentences and paragraphs in work-related documents.
- ▶ Trunk Strength — The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.
- ▶ Manual Dexterity — The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.
- ▶ Near Vision — The ability to see details at close range (within a few feet of the observer).
- ▶ Wrist-Finger Speed — The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.
- ▶ Dynamic Strength — The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.
- ▶ Static Strength — The ability to exert maximum muscle force to lift, push, pull, or carry objects.
- ▶ Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

Work Environment

Brickmasons, Blockmasons, and Stonemasons usually work outdoors and are exposed to the elements. They stand, kneel, and bend for long periods and often have to lift heavy materials. Common hazards include injuries from tools and falls from scaffolds, but these can often be avoided when proper safety equipment is used and safety practices are followed. Workers customarily provide their own hand tools while the employer provides the larger equipment.

Due to the seasonal nature of the work, Brickmasons, Blockmasons, and Stonemasons rarely work steadily. In rainy or cold weather, there is little construction work. Most work 35 to 40 hours per week on a day shift. Sometimes, evening or night shifts are required for emergency repairs, to avoid peak traffic times, or to work overtime to bring a building in on schedule. Some Brickmasons, Blockmasons, and Stonemasons are members of the International Union of Bricklayers and Allied Craftworkers.

California's Job Outlook and Wage

The California Outlook and Wage table below represents the occupation across all industries.

Standard Occupational Classification	Estimated Number of Workers 2004	Estimated Number of Workers 2014	Average Annual Openings	2006 Wage Range (per hour)
Brickmasons and Blockmasons				
47-2021	11,000	13,100	370	\$16.46 to \$27.63
Stonemasons				
47-2022	2,800	3,300	90	\$11.18 to \$21.79

Wages do not reflect self-employment.

Average annual openings include new jobs plus net replacements.

Source: www.labormarketinfo.edd.ca.gov, Employment Projections by Occupation and OES Employment & Wages by Occupation, Labor Market Information Division, Employment Development Department.

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Trends

Employment for this occupation will grow much faster than average through 2014. With both commercial and residential construction continuing at a rapid pace, employment opportunities should be very favorable for the next few years.

The use of bricks and stones in construction dates back to prehistoric times. Techniques have not changed greatly; Brickmasons and Stonemasons still lay one brick, block, or stone at a time. However, new products and procedures have changed the trade somewhat.

One of the greatest changes in recent years is the development of the precast masonry panel. These structures come in a variety of sizes, and can be fairly small when used in residential building or small-scale commercial operation. They may also be so large they must be installed with the help of a crane.

Training/Requirements/Apprenticeships

Brickmasons, Blockmasons, and Stonemasons usually follow one of the following training paths:

- ▶ Formal apprenticeship
- ▶ Community college programs or certificates
- ▶ Vocational school
- ▶ Extensive on-the-job training

Most people enter this trade through on-the-job training, first assisting Brick, Block, and Stonemasons by carrying materials from pallets to the installation location. They generally do other unskilled work until they learn enough to assist the journey-level worker in the more highly skilled aspects of the job.

Some Masons go through a formal apprenticeship program, by receiving classroom training and practical, on-site education. The training period lasts from three to four years, depending upon the program. Information on apprenticeships can be found at www.dir.ca.gov. The formal nature of an apprenticeship program covers all aspects of the occupation, whereas those working with a Mason, who constructs only light residential structures or landscaping, will only be exposed to that type of work.

Recommended High School Course Work

Persons interested in this career should begin preparing in high school, if possible. Classes that can help a new worker find a job include basic mathematics, as well as wood and metal shop.

Where Do I Find the Job?

Direct application to employers remains one of the most effective job search methods. Union Brick, Block, or Stonemasons can find work through their local union office. Nonunion workers can contact others in the trade, supply houses, construction companies, residential, and commercial builders, or at construction sites.

Use the *Search for Employers by Industry* feature on the *Career Center* page at www.labormarketinfo.edd.ca.gov to locate employers in your area. Search using keywords from the following construction industry names to get a list of private firms and their addresses:

- ▶ Commercial Building
- ▶ New Single-Family Housing
- ▶ Concrete Block and Brick Manufacturing
- ▶ Other Concrete Product Manufacturing
- ▶ Employment Placement Agencies
- ▶ Professional Employer Organizations

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- ▶ Industrial Building
- ▶ Landscaping Services
- ▶ New Multifamily Housing
- ▶ Ready-Mix Concrete Manufacturing
- ▶ Residential Remodelers
- ▶ Temporary Help Services

For local listings of contractors, search these **yellow page** headings for listings of private firms:

- ▶ Building Contractors, Commercial/Industrial
- ▶ Building Contractors, General
- ▶ Masonry Contractors

Where Can The Job Lead?

If they work in a large operation, experienced Brick, Block, and Stonemasons may supervise other workers. More often, fully-skilled workers may begin their own businesses, and either employ a few or many workers. If they work for themselves, they must have a contractor's license. The California Contractors State License Board at www.cslb.ca.gov issues a specialty contractor's license for masonry workers. Other areas they may move into include construction estimating, building or home inspection, construction manager, or work in public service.

Other Sources of Information

National Concrete Masonry Association
www.ncma.org

Mason Contractors Association of America
www.masoncontractors.org

International Masonry Institute
www.imiweb.org

The Masonry Society
www.masonrysociety.org

California Department of Consumer Affairs, Contractors State License Board
www.cslb.ca.gov

California Department of Industrial Relations
www.dir.ca.gov

